

CC (particularly of the bladder, prostate, colon or liver) and also
CC malignant melanomas

XX Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;

Best Local Similarity 100.0%; Pred. No. 1,1e-157; Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MKAIFVNLNAPKONTWYAGKLGWSQYHDTGYPYNGFQNNNGPTRNDQLGAGAFGGYQVN 60
DB 1 MKAIFVNLNAPKONTWYAGKLGWSQYHDTGYPYNGFQNNNGPTRNDQLGAGAFGGYQVN 60
QY 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
DB 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
QY 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
DB 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
QY 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
DB 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
QY 181 LSLGVSYRFGQEDAPVAVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
DB 181 LSLGVSYRFGQEDAPVAVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
QY 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
DB 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
QY 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
DB 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
QY 301 SNPVTGNTCDNVKARAALIDCLAPDRRVEIEVKGKEVVTQAPAG 344
DB 301 SNPVTGNTCDNVKARAALIDCLAPDRRVEIEVKGKEVVTQAPAG 344

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RESULT 2
AAB08317 standard; protein; 344 AA.

XX AAB08317;

XX 04-DEC-2000 (first entry)

XX An outer membrane protein A (OmpA), designated P40.

XX Outer membrane protein A; OmpA; P40, cytotoxic T cell response;

XX CTL response; tumour cell; vaccine; infection; tumour; melanoma;

XX Klebsiella pneumoniae.

XX WO200048628-A1.

XX 24-AUG-2000.

XX 17-FEB-2000; 2000WO-FR000393.

XX 17-FEB-1999; 99FR-00001917.

XX (FABR) FABRE MEDICAMENT SA PIERRE.

XX Renno T, Bonnefoy J;

XX WPI, 2000-543667/49.

XX DR N-PSDB; AAA63917.

XX Use of enterobacterial outer membrane protein A in vaccines for inducing

XX PT cytotoxic T cell responses, useful for treating or preventing infections

XX PT and tumors.

XX Claim 7, Page 38-39; 45pp; French.

XX The present sequence represents a Klebsiella pneumoniae outer membrane

XX protein A (OmpA), designated P40. The enterobacterial OmpA polypeptide,

CC or its fragments, is used for preparing a composition that induces, or
CC increases, the cytotoxic T cell (CTL) response against an infectious
CC agent or tumour cell. Compositions containing OmpA, optionally mixed with
CC or coupled to a suitable antigen or hapten, are used as vaccines for
CC treatment or prevention of infections caused by viruses, bacteria, fungi
CC and parasites or tumors, particularly where associated with an antigen
CC and specifically melanoma. Nucleic acids that encode OmpA (or its fusion
CC with antigens or haptens) are useful as genetic vaccines again for
CC treating infections and tumors

XX Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;

Best Local Similarity 100.0%; Pred. No. 1,1e-157; Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 MKAIFVNLNAPKONTWYAGKLGWSQYHDTGYPYNGFQNNNGPTRNDQLGAGAFGGYQVN 60
DB 1 MKAIFVNLNAPKONTWYAGKLGWSQYHDTGYPYNGFQNNNGPTRNDQLGAGAFGGYQVN 60
QY 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
DB 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
QY 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
DB 61 PYLGFEMGYDMLGMAAYKGSVDNGAFKAGQVOLTAKLGYRTTDDLDIYTRLAGWWRADS 120
QY 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
DB 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
QY 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
DB 121 KGNVASTGVSRESEHDGVSVPFAGGVEMAVTRDIATRLLEYQWNNIGDAGTVGTRPDNGM 180
QY 181 LSLGVSYRFGQEDAPVAVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
DB 181 LSLGVSYRFGQEDAPVAVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
QY 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
DB 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
QY 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
DB 241 TOLSNMPPKGSAYVVLGYTRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMG 300
QY 301 SNPVTGNTCDNVKARAALIDCLAPDRRVEIEVKGKEVVTQAPAG 344
DB 301 SNPVTGNTCDNVKARAALIDCLAPDRRVEIEVKGKEVVTQAPAG 344

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RESULT 3
AA93341 standard; protein; 344 AA.

XX AA93341;

XX 04-SEP-2000 (first entry)

XX Amino acid sequence of a Klebsiella P40 protein.

XX P40 protein; outer membrane protein A; OmpA; antigen-presenting cell;

XX dendritic cell; antigen delivery; immune response; cancer;

XX tumour-associated antigen; autoimmune disease; allergy; graft rejection;

XX cardiovascular disease; central nervous system disease; inflammation;

XX infection; immune deficiency.

XX Klebsiella pneumoniae.

XX WO200027432-A1.

XX 18-MAY-2000.

XX 08-NOV-1999; 99WO-FR002734.

XX 06-NOV-1998; 98FR-00014007.

XX (FABR) FABRE MEDICAMENT SA PIERRE.

XX Bonnefoy J, Lecoanet S, Aubry J, Jeannin P, Baubasant T;

XX WPI, 2000-387342/33.

XX DR N-PSDB; AAA15498.


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XX 15-MAR-2000; 2000WO-FR000622.
PF
XX
XX 15-MAR-1999; 99FR-00003153.
PR
XX
XX (FABR ) FABRE MEDICAMENT SA PIERRE.
PA
XX
XX Libon C, Corvaia N, N'guyen TN, Beck A, Bonnefoy J;
PI
XX WPI; 2000-587476/55.
DR
XX N-PSDB; AAA75881.
XX
XX Use of Klebsiella membrane fraction as adjuvant, for e.g. antitumor or
PT antiviral vaccines, to direct a Th1, or mixed, immune response against
PT associated antigen.
XX
XX Disclosure; Page 28-29; 36pp; French.
XX
XX The present sequence represents a Klebsiella pneumoniae P40 polypeptide.
CC described the use of a membrane fraction from Klebsiella pneumoniae,
CC associated with an antigen or hapten, for preparation of a pharmaceutical
CC composition that directs a Th1, or mixed Th1/Th2 immune response. The
CC composition is used for treatment or prevention of infectious diseases
CC (viral, bacterial, fungal or parasitic) or cancers, most especially
CC infections by paramyxoviruses, specifically respiratory syncytial virus
CC or parainfluenza
XX
XX Sequence 344 AA;
SQ
Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKAIFVLNAAAPKNDTWYAGKLGMSQYHDTGFYNGFONNNGPTRNDQLGAGAFGGYQVN 60
DB 1 MKAIFVLNAAAPKNDTWYAGKLGMSQYHDTGFYNGFONNNGPTRNDQLGAGAFGGYQVN 60
QY 61 PYLGEMGYDMLGRMAKYGSDVNGAFKAQGVQLTAKLGYPTTDDLDITRLGGMWRADS 120
DB 61 PYLGEMGYDMLGRMAKYGSDVNGAFKAQGVQLTAKLGYPTTDDLDITRLGGMWRADS 120
QY 121 KGNVASTGVSRSEHDTGVSVPFAGGVEMAVTRDITRLLEYQWNNIGDAGTVGTRPDNGM 180
DB 121 KGNVASTGVSRSEHDTGVSVPFAGGVEMAVTRDITRLLEYQWNNIGDAGTVGTRPDNGM 180
QY 181 LSLGVSYRFGQEDAAPVVAAPAPAPAEVATKHTLKSQVLEFNFKATLKEPGQALDOLY 240
DB 181 LSLGVSYRFGQEDAAPVVAAPAPAPAEVATKHTLKSQVLEFNFKATLKEPGQALDOLY 240
QY 241 TOLSNMDDKDSAVVLTGTTDRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
DB 241 TOLSNMDDKDSAVVLTGTTDRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
QY 301 SNPYTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
DB 301 SNPYTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
RESULT 6
AAB08341
ID AAB08341 standard; protein; 344 AA.
XX
XX AAB08341;
XX
XX 04-DEC-2000 (first entry)
XX
XX An outer membrane protein A (OmpA), designated P40.
XX
XX Outer membrane protein A; OmpA; P40; cytotoxic T cell response; tumour;
KM CTL response; tumour cell; vaccine; melanoma; genetic vaccine.
XX
XX Klebsiella pneumoniae.
OS
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XX WO200048629-A1.
BN
XX
XX 24-AUG-2000.
PD
XX
XX 17-FEB-2000; 2000WO-FR000394.
PF
XX
XX 17-FEB-1999; 99FR-00001917.
PR
XX
XX (FABR ) FABRE MEDICAMENT SA PIERRE.
PA
XX
XX Renno T, Romero P, Micomet I, Carottini J, Bonnefoy J;
PI
XX WPI; 2000-549238/50.
DR
XX N-PSDB; AAA63956.
XX
XX Use of enterobacterial outer membrane protein A in vaccines, used to
PT treat or prevent melanoma, includes melanoma-specific peptide and induces
PT cytotoxic lymphocyte response.
XX
XX Claim 6; Page 30-31; 35pp; French.
XX
XX The present sequence represents a Klebsiella pneumoniae outer membrane
CC protein A (OmpA), designated P40. The enterobacterial OmpA polypeptide,
CC or its fragments, is used for preparing a composition that induces, or
CC increases, the cytotoxic T cell (CTL) response against tumour cells.
CC Compositions containing OmpA, optionally mixed with or coupled to a
CC suitable antigen or hapten, are used as vaccines for treatment or
CC prevention of tumors, particularly where associated with an antigen and
CC specifically melanoma. Nucleic acids that encode OmpA (or its fusion with
CC antigens or haptens) are useful as genetic vaccines again for treating
CC tumors
XX
XX Sequence 344 AA;
SQ
Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKAIFVLNAAAPKNDTWYAGKLGMSQYHDTGFYNGFONNNGPTRNDQLGAGAFGGYQVN 60
DB 1 MKAIFVLNAAAPKNDTWYAGKLGMSQYHDTGFYNGFONNNGPTRNDQLGAGAFGGYQVN 60
QY 61 PYLGEMGYDMLGRMAKYGSDVNGAFKAQGVQLTAKLGYPTTDDLDITRLGGMWRADS 120
DB 61 PYLGEMGYDMLGRMAKYGSDVNGAFKAQGVQLTAKLGYPTTDDLDITRLGGMWRADS 120
QY 121 KGNVASTGVSRSEHDTGVSVPFAGGVEMAVTRDITRLLEYQWNNIGDAGTVGTRPDNGM 180
DB 121 KGNVASTGVSRSEHDTGVSVPFAGGVEMAVTRDITRLLEYQWNNIGDAGTVGTRPDNGM 180
QY 181 LSLGVSYRFGQEDAAPVVAAPAPAPAEVATKHTLKSQVLEFNFKATLKEPGQALDOLY 240
DB 181 LSLGVSYRFGQEDAAPVVAAPAPAPAEVATKHTLKSQVLEFNFKATLKEPGQALDOLY 240
QY 241 TOLSNMDDKDSAVVLTGTTDRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
DB 241 TOLSNMDDKDSAVVLTGTTDRIGSEAYNQOLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
QY 301 SNPYTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
DB 301 SNPYTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
RESULT 7
AAG63698
ID AAG63698 standard; protein; 344 AA.
XX
XX AAG63698;
XX
XX 29-OCT-2001 (first entry)
XX
XX Amino acid sequence of an outer membrane protein A, P40.
XX
XX
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XX Outer membrane protein A; P40; antigen presenting cell; vaccine;
 KW antiviral; antibacterial; anticancer; autoimmune disease; inflammation;
 KM graft rejection; cardiovascular disease; immune deficiency.
 XX Klebsiella pneumoniae.
 OS
 XX FR2803302-A1.
 PN
 XX 06-JUL-2001.
 PD
 XX 04-JAN-2000; 2000FR-00000070.
 PF
 XX 04-JAN-2000; 2000FR-00000070.
 XX
 PR
 XX (FABR) FABRE MEDICAMENT SA PIERRE.
 PA
 XX Bauesant T, Jeannin P, Delneste Y, Lawny F, Bonnefoy JY;
 PI
 XX MPI: 2001-427232/46.
 DR
 XX N-PSDB; AAR74731.
 XX
 XX Preparing purified polypeptide soluble in absence of detergent, useful
 for modulating the immune system, e.g. in vaccines, by removal of
 detergent, denaturing and molecular sieving.
 XX
 XX Claim 9; Page 24-25; 34pp; French.
 PS
 XX The present sequence represents an outer membrane protein A (P40) of
 CC Klebsiella pneumoniae. The protein is soluble in aqueous solvent in
 CC absence of detergent. The specification describes a method for the
 CC preparation of this polypeptide. The P40 protein binds selectively to
 CC antigen-presenting cell, so provides targeting, proliferation and/or
 CC expression of molecules by these cells. P40 is used, alone or as an
 CC adjuvant, to produce therapeutic compositions that are soluble in absence
 CC of detergent, especially when formulated with an antigen or hapten for
 CC modulating the host's immune system. Especially, it is used to prepare
 CC vaccines, especially antiviral, antibacterial or anticancer (e.g. against
 CC human immune deficiency virus, respiratory syncytial virus, measles,
 CC mumps, tuberculosis etc.), but also against fungi, parasites, autoimmune
 CC diseases, graft rejection, cardiovascular disease, inflammation and
 CC immune deficiency
 CC
 XX Sequence 344 AA;
 SQ
 Query Match 100.0%; Score 1823; DB 4; Length 344;
 Best Local Similarity 100.0%; Pred. No. 1.1e-157;
 Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 8
 AAB67770
 ID AAB67770 standard; protein; 344 AA.
 XX
 AC AAB67770;
 XX
 DT 11-JUN-2001 (first entry)
 XX
 XX Amino acid sequence of an outer membrane protein A (OmpA) P40.
 DE
 XX Outer membrane protein A; OmpA; P40; enterobacteria; nasal composition;
 KW respiratory syncytial virus; RSV; RSV infection; lung; respiratory tract;
 KM vaccine.
 XX Klebsiella pneumoniae.
 OS
 XX WO200121203-A1.
 PN
 XX 29-MAR-2001.
 PD
 XX 22-SEP-2000; 2000WO-FR002626.
 PF
 XX 23-SEP-1999; 99FR-00011888.
 XX
 PR
 XX (FABR) FABRE MEDICAMENT SA PIERRE.
 PA
 XX Corvales N, Goestch L;
 PI
 XX MPI: 2001-257929/26.
 DR
 XX N-PSDB; AAR60152.
 XX
 XX Vaccine against respiratory syncytial virus, comprises enterobacterial
 PT outer membrane protein and viral immunogen, provides protective response
 PT throughout the respiratory tract.
 XX
 PS Claim 3; Page 28-29; 39pp; French.
 XX
 XX The present sequence represents an outer membrane protein A (OmpA),
 CC designated P40. Enterobacterium OmpA proteins, associated with an
 CC immunogenic peptide from respiratory syncytial virus (RSV), are used to
 CC prepare a nasal composition that induces a protective response, against
 CC RSV infection in the upper and lower (lung) respiratory tract. OmpA
 CC potentiates the immune response to some immunogenic peptides, eliminating
 CC the need for adjuvants. The method is useful for producing vaccines for
 CC prevention or treatment of RSV infections
 CC
 XX Sequence 344 AA;
 SQ
 Query Match 100.0%; Score 1823; DB 4; Length 344;
 Best Local Similarity 100.0%; Pred. No. 1.1e-157;
 Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;


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RESULT 11
ADI00532
ID ADI00532 standard; protein; 344 AA.
AC ADI00532;
XX
XX 15-APR-2004 (first entry)
DT
XX Klebsiella pneumoniae Ompa P40 protein.
DE
XX solubility; virulence; antibacterial; parasitic; fungicide; cytostatic;
KW vaccine; viral; bacterial; parasitic; fungal infection; cancer;
KW gene therapy; cosmetic; major histocompatibility complex; MHC;
XX cytotoxic T lymphocyte; CTL; Ompa; P40.
XX Klebsiella pneumoniae.
OS
XX FR2842812-A1.
PN
XX 30-JAN-2004.
PD
XX 26-JUL-2002; 2002FR-00009526.
PR
XX 26-JUL-2002; 2002FR-00009526.
PA (FABR ) FABRE MEDICAMENT SA PIERRE.
XX
XX Beck A, Corvaia N, Klinguer HC, Goetsch L;
PI
XX WPI; 2004-135597/14.
XX
XX Solubilizing hydrophobic peptides, useful e.g. in vaccines against
PT infectious microbes or tumors, by attachment of at least three lysine
PT residues.
XX
XX Disclosure; SEQ ID NO 72; 65pp; French.
XX
XX The invention relates to a novel method for solubilizing, or improving
CC the solubility of, a peptide in aqueous medium comprising covalent
CC attachment of at least 3 residues of Lys, in L or D form, distributed
CC over the N and/or C termini in the form of a linear or branched chain.
CC The invention has virucide, antibacterial, parasitic, fungicide and
CC cytostatic activities and may be used to generate prophylactic or
CC therapeutic vaccines or compositions for control of viral, bacterial,
CC parasitic or fungal infections or cancers, as well as during gene therapy
CC procedures. The peptides of the invention may also be used in cosmetic
CC compositions. The current sequence is that of the Klebsiella pneumoniae
CC Ompa P40 protein of the invention.
XX
XX Sequence 344 AA;
XX
Query Match 100.0%; Score 1823; DB 8; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKAIFVLAAPKDNMTWYAGKLGMSQYHDYFGNGFONNNGPTRNDJLGAGAFGGYQVN 60
Db 1 MKAIFVLAAPKDNMTWYAGKLGMSQYHDYFGNGFONNNGPTRNDJLGAGAFGGYQVN 60
QY 61 PYLGPEMGYDWLGRRAAYKGSVDNNGAFKAGQVLTAKLGYPTTDDLDIYTRLGGMWRADS 120
Db 61 PYLGPEMGYDWLGRRAAYKGSVDNNGAFKAGQVLTAKLGYPTTDDLDIYTRLGGMWRADS 120
QY 121 KGNASTGVSRSSEHDGTGSPVFAAGVEMAVTTRDIATRLLEYQVNNIGAGTVGTRPDNGM 180
Db 121 KGNASTGVSRSSEHDGTGSPVFAAGVEMAVTTRDIATRLLEYQVNNIGAGTVGTRPDNGM 180
QY 181 LSLGVSYRFGEDAAPVVAAPAPAPAEVATKFTLKSQVLFNFNKATLKPEGQALDQLY 240
Db 181 LSLGVSYRFGEDAAPVVAAPAPAPAEVATKFTLKSQVLFNFNKATLKPEGQALDQLY 240

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QY 241 TQLSNMDDPKDSANVLTGYDTRIGSRAVNOQLSEKRAOSVDVYAKGIPAKGISARGMGE 300
Db 241 TQLSNMDDPKDSANVLTGYDTRIGSRAVNOQLSEKRAOSVDVYAKGIPAKGISARGMGE 300
QY 301 SNPYTGNTCDNVKARAAALIDCLAPRRIEIVKGYKEVVTOPAG 344
Db 301 SNPYTGNTCDNVKARAAALIDCLAPRRIEIVKGYKEVVTOPAG 344
RESULT 12
ADI56807
ID ADI56807 standard; protein; 344 AA.
AC ADI56807;
XX
XX 22-APR-2004 (first entry)
DT
XX K. pneumoniae p40 amino acid sequence, seq id 72.
DE
XX
XX Vaccine; gene therapy; solubility; MHC ligand;
KW major histocompatibility complex; hydrophobic epitope;
KW microbial pathogen; tumour; melanoma; Melan/Mart-1; 4R-EIA; viral;
KW bacterial; parasitic; fungal; infection; cancer; p40.
XX
XX Klebsiella pneumoniae.
OS
XX FR2842811-A1.
PN
XX 30-JAN-2004.
PD
XX 26-JUL-2002; 2002FR-00009522.
PR
XX 26-JUL-2002; 2002FR-00009522.
PA (FABR ) FABRE MEDICAMENT SA PIERRE.
XX
XX Beck A, Corvaia N, Klinguer HC, Goetsch L;
PI
XX WPI; 2004-135596/14.
XX
XX Solubilizing hydrophobic peptides, useful e.g. in vaccines against
PT infectious microbes or tumors, by attachment of at least three arginine
PT or lysine residues.
XX
XX Disclosure; SEQ ID NO 72; 70pp; French.
XX
XX The invention relates to a method for solubilizing, or improving the
CC solubility of, a peptide (I) in aqueous medium, comprising covalent
CC attachment of at least 3 residues of Arg and/or Lys, provided at least
CC one is Arg, in the L or D form, distributed over the N and/or C termini
CC in the form of a linear or branched chain. Also disclosed are peptide
CC ligands (Ia) of MHC (major histocompatibility complex) modified in the
CC manner described above, and a vaccine containing at least one peptide
CC that contains at least one hydrophobic epitope derived from an antigenic
CC protein of a microbial pathogen or tumour that is modified by the new
CC method or is (Ia). Four peptides, unmodified, are specifically claimed,
CC e.g. the melanoma Melan/Mart-1 peptide (4R-EIA). Solubilised peptides of
CC the invention, where derived from peptides that include at least one
CC hydrophobic epitope from a microbial pathogen or from a tumour-associated
CC protein, are used in prophylactic or therapeutic vaccines or compositions
CC for control of viral, bacterial, parasitic or fungal infections or
CC cancers. Nucleic acids that encode the solubilised (I) can be used
CC similarly. The solubilised peptide can also be used in cosmetic
CC compositions. The current sequence represents the K. pneumoniae p40 amino
CC acid sequence.
XX
XX Sequence 344 AA;
XX
Query Match 100.0%; Score 1823; DB 8; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKAIFVLAAPKDNMTWYAGKLGMSQYHDYFGNGFONNNGPTRNDJLGAGAFGGYQVN 60

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Db      1 MKALFVLTAAAPKONTWYAGKLGMSQYHDTGFYGNQFNNNNGPFRNDQLGAGAFGGYQVN 60
Qy      61 PYLGFEGYDMLGMAAYKGSVDNCAFKAQGVLTAKLGYPTTDDLDIYTRLGGVWRADS 120
Db      61 PYLGFEGYDMLGMAAYKGSVDNCAFKAQGVLTAKLGYPTTDDLDIYTRLGGVWRADS 120
Qy      121 KGNVASTGVSRSSEHDTGSPVPAGGVEMAVTRDIATRLLEYQWNNIGAGVGTTRPDNGM 180
Db      121 KGNVASTGVSRSSEHDTGSPVPAGGVEMAVTRDIATRLLEYQWNNIGAGVGTTRPDNGM 180
Qy      181 LSLGVSYRFGQEDAPVVAAPAPAPAPAEVATKHFTLKSVDLFFNFKATLKEPGQALDQLY 240
Db      181 LSLGVSYRFGQEDAPVVAAPAPAPAEVATKHFTLKSVDLFFNFKATLKEPGQALDQLY 240
Qy      241 TQLSNMDPKGSAVVLGTYTRIGSEAYNQULSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
Db      241 TQLSNMDPKGSAVVLGTYTRIGSEAYNQULSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
Qy      301 SNPTGNTCDNVKARAAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
Db      301 SNPTGNTCDNVKARAAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344

```

RESULT 13

AD138366
ID AD138366 standard; protein; 344 AA.

AC AD138366;

DT 22-APR-2004 (first entry)

DE K. pneumoniae OmpA P40, seq id 2.

KM Cytolethal; vaccine; beta-hCG; human chorionic gonadotropin; beta-chain;

KM cytotoxic T lymphocyte; CTL; cancer; OmpA; P40.

OS Homo sapiens.

FN FR2839452-A1.

PD 14-NOV-2003.

PF 07-MAY-2002; 2002FR-00005691.

PI 07-MAY-2002; 2002FR-00005691.

XX (FABR) FABRE MEDICAMENT SA PIERRE.

PI Goetech L, Aubry JP, Klingner HC, Corvaia N, Beck A;

XX WPI; 2004-001390/01.

PT New peptides from human chorionic gonadotropin, useful for treatment or

XX prevention of cancer, induce a cytotoxic T cell response.

PS Claim 9; SEQ ID NO 2; 86pp; French.

XX The invention relates to the use of a peptide (I), encoded by a genomic

CC fragment of the gene for beta-hCG (human chorionic gonadotropin, beta-

CC chain), or one of its analogs, to prepare a pharmaceutical composition

CC for generating cytotoxic T lymphocytes (CTL). Peptides of the invention

CC associate with MHC Class I molecules to generate (I)-specific CTL,

CC causing expression of gamma-interferon and tumor necrosis factor alpha,

CC directed against hCG+ tumour cells. Peptides of the invention and nucleic

CC acids that encodes them, are used, particularly as vaccine, for treatment

CC or prevention of cancers that are positive for the hCG marker. The

CC current sequence represents the K. pneumoniae OmpA P40 amino acid

CC sequence.

XX Sequence 344 AA;

SQ Query Match 100.0%; Score 1823; DB 8; Length 344;

Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 MKALFVLTAAAPKONTWYAGKLGMSQYHDTGFYGNQFNNNNGPFRNDQLGAGAFGGYQVN 60
Db      1 MKALFVLTAAAPKONTWYAGKLGMSQYHDTGFYGNQFNNNNGPFRNDQLGAGAFGGYQVN 60
Qy      61 PYLGFEGYDMLGMAAYKGSVDNCAFKAQGVLTAKLGYPTTDDLDIYTRLGGVWRADS 120
Db      61 PYLGFEGYDMLGMAAYKGSVDNCAFKAQGVLTAKLGYPTTDDLDIYTRLGGVWRADS 120
Qy      121 KGNVASTGVSRSSEHDTGSPVPAGGVEMAVTRDIATRLLEYQWNNIGAGVGTTRPDNGM 180
Db      121 KGNVASTGVSRSSEHDTGSPVPAGGVEMAVTRDIATRLLEYQWNNIGAGVGTTRPDNGM 180
Qy      181 LSLGVSYRFGQEDAPVVAAPAPAPAEVATKHFTLKSVDLFFNFKATLKEPGQALDQLY 240
Db      181 LSLGVSYRFGQEDAPVVAAPAPAPAEVATKHFTLKSVDLFFNFKATLKEPGQALDQLY 240
Qy      241 TQLSNMDPKGSAVVLGTYTRIGSEAYNQULSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
Db      241 TQLSNMDPKGSAVVLGTYTRIGSEAYNQULSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
Qy      301 SNPTGNTCDNVKARAAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
Db      301 SNPTGNTCDNVKARAAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344

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RESULT 14

AAR93797
ID AAR93797 standard; protein; 344 AA.

AC AAR93797;

DT 16-SEP-1998 (first entry)

DE Protein LP40, a variant of OmpA protein P40 from K. pneumoniae I-145.

KM Outer membrane protein; OmpA; P40; immunocomplex; oligosaccharide;

KM polysaccharide; vaccine; Salmonella.

OS Synthetic.

OS Klebsiella pneumoniae.

FN WO9741888-A1.

PD 13-NOV-1997.

PF 06-MAY-1997; 97WO-FR000800.

PI 07-MAY-1996; 96FR-00005692.

XX (FABR) FABRE MEDICAMENT SA PIERRE.

PI Binz H, Haeuw J, Svenson S;

XX WPI; 1997-558694/51.

XX N-PSDB; AAV13868.

PT Immunogenic complex for use in anti-bacterial vaccine - comprises

CC bacterial oligo; or polysaccharide coupled to a Gram-negative bacterial

CC outer membrane protein or a Streptococcal HSA binding protein.

XX Claim 11,12,20; Page 38-39; 63pp; French.

XX The patent discloses a new immunogenic complex which consists of (1) an

CC oligo- or polysaccharide found naturally on bacteria, coupled to (2) a

CC carrier protein chosen from (a) the human serum albumin binding protein

CC of Streptococcus, (b) Gram-negative bacterial outer membrane proteins

CC (Omp), or (c) fragments of these proteins. The immunogenic complex is

CC useful in a vaccine to protect animals against infection by Salmonella,

CC especially those belonging to antigenic specificity group O:9, including

CC S. enteritidis, S. panama and S. dublin. A vaccine prepared using an

CC oligosaccharide from *S. enteritidis* can be used to provide protection
 CC against septicaemia caused by *S. typhi* and against typhoid fever, as well
 CC as to protect humans and animals from toxic infections and zoonosis
 CC caused by *Salmonella* of the same serogroup. The carrier proteins enhance
 CC the immunogenicity of the oligo- or polysaccharide antigens. Inclusion of
 CC additional *Salmonella* capsule antigens, such as the Vi antigen, increases
 CC the vaccine's efficacy against encapsulated bacteria. The present
 CC sequence, protein P40, is a preferred example of a carrier protein which
 CC can be used in the immunocomplex. It is obtained by recombinant
 CC expression of a modified *Klebsiella pneumoniae* I-145 P40 gene in *E. coli*
 CC
 XX

Sequence 344 AA;

Query Match 99.7%; Score 1818; DB 2; Length 344;

Best Local Similarity 99.7%; Pred. No. 3e-157; Mismatches 1; Indels 0; Gaps 0;

Matches 343; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MKAIFVLNAPKDNMTWYAGKLGWSQYHDTGFYNGFQNNNGPTRNDQAGAFGSGYQVN 60
 DB 1 MKAIFVLNAPKDNMTWYAGKLGWSQYHDTGFYNGFQNNNGPTRNDQAGAFGSGYQVN 60
 QY 61 PYLGFEMGYDMLGRNAYKGSVDNGAFKAGVOLTAKLGYPIITDDLDIYTRLGGMWRADS 120
 DB 61 PYLGFEMGYDMLGRNAYKGSVDNGAFKAGVOLTAKLGYPIITDDLDIYTRLGGMWRADS 120
 QY 121 KGNVASTGVSRESEHDTGVSVPFAGGVEMAVTRDIAITRLBYQWNNIGDAGTVGTRPDNGM 180
 DB 121 KGNVASTGVSRESEHDTGVSVPFAGGVEMAVTRDIAITRLBYQWNNIGDAGTVGTRPDNGM 180
 QY 181 LSLGVSYRFGQDDAPVVAAPAPAPAPAEVATKFTLKSVDLFPFNKATLKPEGOQALDQLY 240
 DB 181 LSLGVSYRFGQDDAPVVAAPAPAPAPAEVATKFTLKSVDLFPFNKATLKPEGOQALDQLY 240
 QY 241 TQLSNMDPKDGSAAVVLGYTDRISEAYNQQLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
 DB 241 TQLSNMDPKDGSAAVVLGYTDRISEAYNQQLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
 QY 301 SNPVGTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
 DB 301 SNPVGTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344

RESULT 15

AAB67771 AAB67771 standard; protein; 452 AA.

AC AAB67771;

DT 11-JUN-2001 (first entry)

XX Amino acid sequence of a fusion protein of P40 and RSV antigen.

Outer membrane protein A; OmpA; P40; enterobacteria; nasal composition;
 RSV; RSV infection; lung; respiratory tract; vaccine.

OS Synthetic.

OS *Klebsiella pneumoniae*.

OS Respiratory syncytial virus.

PN WO200121203-A1.

PD 29-MAR-2001.

PP 22-SEP-2000; 2000WO-FR002626.

PR 23-SEP-1999; 99FR-00011888.

PA (FABR) FABRE MEDICAMENT SA PIERRE.

PI Corvaiea N, Goesch L,

XX WP1; 2001-257929/26.

DR N-PSDB; AAF80153.

XX Vaccine against respiratory syncytial virus, comprises enterobacterial
 PT outer membrane protein and viral immunogen, provides protective response
 PT throughout the respiratory tract.

XX Example 2; Page 31-32; 39pp; French.

CC The present sequence represents a fusion protein comprising a *Klebsiella*
 CC pneumoniae outer membrane protein A (OmpA) designated P40 and a
 CC respiratory syncytial virus (RSV) antigen. Enterobacterium OmpA proteins,
 CC associated with an immunogenic peptide from RSV are used to prepare a
 CC nasal composition that induces a protective response, against RSV
 CC infection in the upper and lower (lung) respiratory tract. OmpA
 CC potentiates the immune response to some immunogenic peptides, eliminating
 CC the need for adjuvants. The method is useful for producing vaccines for
 CC prevention or treatment of RSV infections
 CC
 XX

Sequence 452 AA;

Query Match 99.7%; Score 1818; DB 4; Length 452;

Best Local Similarity 99.7%; Pred. No. 4.4e-157; Mismatches 1; Indels 0; Gaps 0;

Matches 343; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MKAIFVLNAPKDNMTWYAGKLGWSQYHDTGFYNGFQNNNGPTRNDQAGAFGSGYQVN 60
 DB 1 MKAIFVLNAPKDNMTWYAGKLGWSQYHDTGFYNGFQNNNGPTRNDQAGAFGSGYQVN 60
 QY 61 PYLGFEMGYDMLGRNAYKGSVDNGAFKAGVOLTAKLGYPIITDDLDIYTRLGGMWRADS 120
 DB 61 PYLGFEMGYDMLGRNAYKGSVDNGAFKAGVOLTAKLGYPIITDDLDIYTRLGGMWRADS 120
 QY 121 KGNVASTGVSRESEHDTGVSVPFAGGVEMAVTRDIAITRLBYQWNNIGDAGTVGTRPDNGM 180
 DB 121 KGNVASTGVSRESEHDTGVSVPFAGGVEMAVTRDIAITRLBYQWNNIGDAGTVGTRPDNGM 180
 QY 181 LSLGVSYRFGQDDAPVVAAPAPAPAPAEVATKFTLKSVDLFPFNKATLKPEGOQALDQLY 240
 DB 181 LSLGVSYRFGQDDAPVVAAPAPAPAPAEVATKFTLKSVDLFPFNKATLKPEGOQALDQLY 240
 QY 241 TQLSNMDPKDGSAAVVLGYTDRISEAYNQQLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
 DB 241 TQLSNMDPKDGSAAVVLGYTDRISEAYNQQLSEKRAQSVVDYLVAKGIPAGKISARGMGE 300
 QY 301 SNPVGTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344
 DB 301 SNPVGTGNTCDNVKARAALIDCLAPDRRVEIEVKGYKEVVTOPAG 344

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 Job time : 85 secs

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